Description Set Profiles

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DC Application Profiles

- traditional definition

"A Dublin Core Application Profile (DCAP) is a declaration specifying which metadata terms an organization, information provider, or user community uses in its metadata. By definition, a DCAP identifies the source of metadata terms used—whether they have been defined in formally maintained standards such as Dublin Core, in less formally defined element sets and vocabularies, or by the creator of the DCAP itself for local use in an application. Optionally, a DCAP may provide additional documentation on how the terms are constrained, encoded or interpreted for application-specific purposes." --*CEN CWA 14855:2003*

Machine-readable constraints?

- XML Schema?
  - Not applicable to RDF
  - Not applicable to HTML
  - Not applicable to ....
- CEN Guidelines
  - Not based on DCAM
  - No support for Description Sets
- Needed something new
  - "Dublin Core Description Set Profile"

Envisioned usages

- as a formal representation of the constraints of a Dublin Core Application Profile
- as configuration for databases
- as configuration for metadata editing tools
- etc.

Scope of a DSP spec

- Information model: Structural constraints on a description set:
  - what descriptions may occur
  - what properties may be used
  - what ways might a value surrogate be given
- XML expression

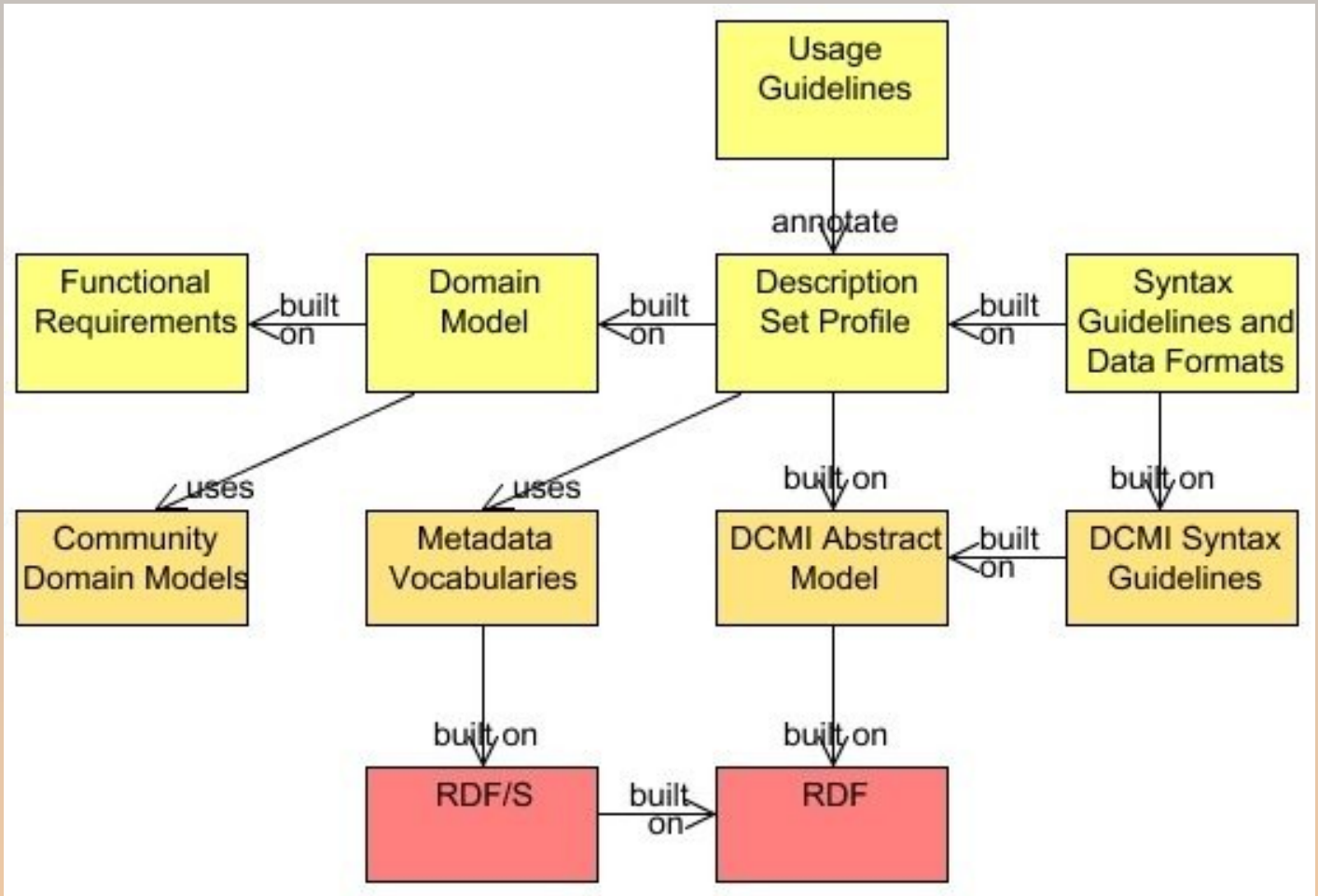
Out of scope

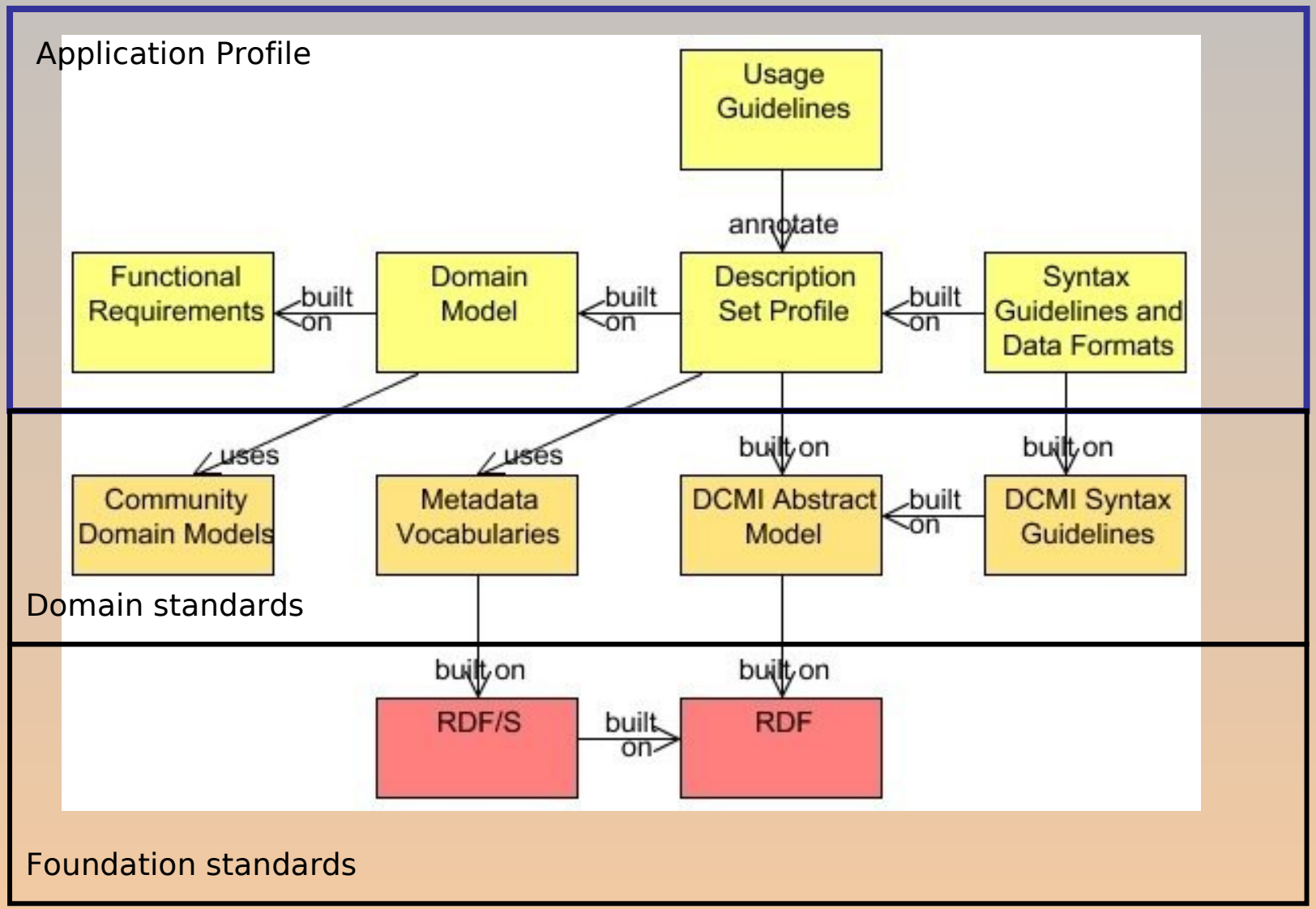
- Human-readable documentation
- Definition of vocabularies
- Version control
- etc.

DC Application Profiles

- new definition (in progress)

- A DCAM-conformant Application Profile ("DC Application Profile") is packet of documentation which consists of:
  - Functional requirements (mandatory)
  - Domain model (mandatory)
  - Description Set Profile (DSP) (mandatory)
  - Usage guidelines (optional)
  - Encoding syntax guidelines (optional)


Usage Guidelines
annotate
Functional Requirements
built on
Domain Model
built on
Description Set Profile
built on
Syntax Guidelines and Data Formats
uses
uses
built on
built on
Community Domain Models
Metadata Vocabularies
DCMI Abstract Model
built on
DCMI Syntax Guidelines
built on
built on
RDF/S
built on
RDF


Application Profile
Usage Guidelines
annotate
Functional Requirements
built on
Domain Model
built on
Description Set Profile
built on
Syntax Guidelines and Data Formats
uses
uses
built on
built on
Community Domain Models
Metadata Vocabularies
DCMI Abstract Model
built on
DCMI Syntax Guidelines
Domain standards
built on
built on
RDF/S
built on
RDF
Foundation standards

First working draft

- http://dublincore.org/architecturewiki/DescriptionSetProfile
- Comments on DC-ARCHITECTURE
- Publication schedule not defined

Example: The book AP

- A book:
  - a literal title
  - a creator, described separately
- A creator
  - a literal name

Description Template: Book

Statement template: literal title

Property: dcterms:title

Literal value | Language | SES

Statement template: creator

Property: dcterms:creator Description reference: Creator

Value URI

Vocabulary Encoding Scheme

Value string | Language | SES

Description Template: Creator

Statement template: literal name

Property: foaf:name standalone:no

Literal value | Language | SES

http://knowware.nada.kth.se/DCWiki/TheBookAP?action=raw
http://knowware.nada.kth.se/DCWiki/TheBookAP
http://knowware.nada.kth.se/DCWiki/TheBookAP?action=DSP2XML

Link

```
{{{#!DSP
== Description template: Book ==
DT=(min="1" max="1" standalone="yes" identifier="book")

=== Title ===

ST=(max="1" type="literal" PC={http://purl.org/dc/terms/title})
|| Definition || A name given to the resource. ||
LC=(LangC=(occurrence="optional") SESConstraint=(occurrence="disallowed") )

=== Creator ===

ST=(max="1" type="nonliteral" PC={http://purl.org/dc/terms/creator})
|| Definition || An entity primarily responsible for making the resource. ||
NLC=(VURIConstraint=(occurrence="disallowed") VESConstraint=(occurrence="disallowed")
        VStringConstraint=(max="1" LangC=(occurrence="disallowed")
        SESConstraint=(occurrence="disallowed")) description="creator" )


== Description template: Creator ==
DT=(min="1" max="1" standalone="no" identifier="creator")

=== Name ===

ST=(max="1" type="literal" PC={http://xmlns.com/foaf/0.1/name})
|| Definition || A name for some thing.  ||
LC=(LangC=(occurrence="disallowed") SESConstraint=(occurrence="disallowed") )

}}}
```

http://knowware.nada.kth.se/DCWiki/TheBookAP?action=raw
http://knowware.nada.kth.se/DCWiki/TheBookAP
http://knowware.nada.kth.se/DCWiki/TheBookAP?action=DSP2XML

Description template: Book

Title

Property	http://purl.org/dc/terms/title
Max occurrence	1
Literal?	Yes
Definition	A name given to the resource.
Value (Literal)	**Syntax Encoding Scheme:** **Occurrence** disallowed **Language Constraint:** **Occurrence** optional

Creator

Property	http://purl.org/dc/terms/creator
Max occurrence	1
Literal?	No
Definition	An entity primarily responsible for making the resource.
Value (Non-Literal)	**Description**: creator **Value URI Constraint**: **Occurrence** disallowed **Vocabulary Encoding Scheme Constraint** **Occurrence**: disallowed **Value String Constraint:** Max occurrence 1 *Syntax Encoding Syntax Constraint*: **Occurrence**: disallowed *Language Constraint*: **Occurrence** disallowed

Description template: Creator

Name

Property	http://xmlns.com/foaf/0.1/name
Max occurrence	1
Literal?	Yes
Definition	A name for some thing.
Value (Literal)	**Syntax Encoding Scheme:** **Occurrence** disallowed **Language Constraint:** **Occurrence** disallowed

http://knowware.nada.kth.se/DCWiki/TheBookAP?action=raw
http://knowware.nada.kth.se/DCWiki/TheBookAP
http://knowware.nada.kth.se/DCWiki/TheBookAP?action=DSP2XML

```
<?xml version="1.0"?>

<DescriptionSetTemplate>
  <DescriptionTemplate maxOccur="1" minOccur="1">

    <StatementTemplate maxOccur="1" type="literal">
      <Property>http://purl.org/dc/terms/title</Property>
      <LiteralConstraint>
        <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
        <LanguageOccurrence>optional</LanguageOccurrence>
      </LiteralConstraint>
    </StatementTemplate>

    <StatementTemplate maxOccur="1" type="nonliteral">
      <Property>http://purl.org/dc/terms/creator</Property>
      <NonliteralConstraint descriptionTemplateID="creator">
        <ValueURIOccurrence>disallowed</ValueURIOccurrence>
        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
        <ValueStringConstraint maxOccur="1">
          <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
          <LanguageOccurrence>disallowed</LanguageOccurrence>
        </ValueStringConstraint>
      </NonliteralConstraint>
    </StatementTemplate>

  </DescriptionTemplate>

  <DescriptionTemplate maxOccur="1" minOccur="1">
    <StatementTemplate maxOccur="1" type="literal">
      <Property>http://xmlns.com/foaf/0.1/name</Property>
      <LiteralConstraint>
        <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
        <LanguageOccurrence>disallowed</LanguageOccurrence>
      </LiteralConstraint>
    </StatementTemplate>
  </DescriptionTemplate>
</DescriptionSetTemplate>
```

Putting DSPs to work

- The SHAME demo
- Takes DSP-XML
- Generates an RDF editor on the fly
  - RDF conforms to DSP constraints